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10/657,864	09/09/2003	David J. Houck	Houck 5-2-1-3 (LCNT/12569	2071

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EXAMINER	
WU, JIANYE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/657,864	HOUCK ET AL.	
	Examiner	Art Unit	
	Jianye Wu	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments/Amendments

1. Applicant's arguments filed on 12/23/2008 regarding 35 U.S.C. 103(a) rejections have been fully considered but are moot due to the fact that all independent claims (1 and 14) are amended. New ground rejections are made based on the amended claims.

The following are Examiner's responses to some of Applicant's arguments for clarification purpose.

For claim 1, Applicant argues:

a) "First, ... Elliott fails to teach or suggest obtaining information relevant to the quality of service of voice calls being transmitted from the first location to the second location via the network path." "" (page 8, 2nd full paragraph);

b) "Second, ... Elliott fails to teach or suggest a parameter indicative of a congestion status of a network path from a first location to a second location, as claimed in Applicants'" (page 9, last paragraph);

c) "Third, ... Examiner has failed to cite any portion of Elliott in support of the assertion that Elliott discloses Applicants' limitation of accepting a new call into the IP network in the case of said parameter not exceeding an upper threshold. Rather, as noted in Applicants' previous response" (page 10, 1st paragraph);

d) "RFC 3550 fails to teach or suggest at least the limitations of "obtaining, at the first location, information relevant to the quality of service of voice calls being transmitted from the first location to the second location via the network path," "calculating, based on said information, a parameter indicative of a congestion status of the network path from the first location to the second location," and "accepting the

new call into the IP network at the first location in the case of said parameter not exceeding an upper threshold," as claimed in Applicants' claim 1" (page 10, 5th paragraph);

In response, **Examiner respectfully disagrees**:

a) Elliott clearly discloses the information relevant to the quality of service (packet loss, [1493], line 4 and Fig. 21B) as recited in Office Action;

b) Elliott clearly discloses the limitation of "a congestion status of a network path from a first location to a second location" ("**Routing Congestion** Information", [0831], where two ends of the routing are the first and the second location);

c) Elliott discloses Packet Loss Threshold of Table 147 that can be used as an upper threshold for establishing a new call. This "an upper threshold" is so broad that one skilled in the art could use the number of calls existing between two ends/locations as the variable as a criteria for setup a new call, and using 0 (zero) as an upper threshold so that only one call will exist between the two locations;

d) As explained in c) the limitations of "information relevant to the quality of service" and "the new call into the IP network at the first location in the case of said parameter not exceeding an upper threshold" are disclosed by Elliott. RFC 3550 does disclose the calculation a parameter indicative of a congestion status (calculation of packet loss ratio, line 1-11 of the last paragraph of page 43).

Claim Rejections - 35 USC § 103

2. The **following** is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 1-15** and **18-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott et al (US 20040022237, hereinafter **Elliott**) in view of H. Schulzrinne et al. IETF RFC 3550 "RTP: A Transport Protocol for Real-Time Applications", July 2003 (hereinafter **RFC 3550**).

For **claim 1** and **14**, Elliott discloses a method and an apparatus (soft switch 204 in FIG. 2 and 3, with circuit being the means for implementing logic in the soft switch) for determining whether to accept a new call to be routed from a first location to a second location via a network path (VoIP, [0453] and FIG. 1), comprising the steps of:

(a) obtaining, at the first location (126 of FIG. 1 or 21B), information relevant to the quality of service (packet loss, [1493], line 4 and Fig. 21B) of voice calls being transmitted from the first location to a second location (130 of FIG. 1 or 21B) via the network path (e.g., a path from Terminal 102 to Terminal 120 of FIG. 1);

(b) a parameter indicative of a congestion status of the network from the first location to the second location (suggested by **"Routing Congestion** Information", [0831]; or "many of the **congestion** and limited bandwidth problem would be solved",

[0016]; or Packet Loss Threshold, Table 147 – continued, page 85, where packet loss is used as an indication of congestion: no loss, no congestion); and

(c) accepting the new call into the IP network at the first location in the case of said parameter not exceeding an upper threshold (e.g., set up a call is a packet loss does not exceed the Packet Loss Threshold of Table 147; or a call will always accepted if the an upper threshold is selected as 0).

Elliott is silent on calculating a parameter indicative of a congestion status in b).

In the same field of endeavor, RFC 3550 discloses calculating the packet loss threshold (packet loss ratio, line 1-11 of the last paragraph of page 43), which is a parameter indicative of a congestion status.

One skilled in the art would apply the calculating the parameter taught by RFC 3550 into Elliott to accept a new call packet if data loss threshold does not exceed an upper threshold to ensure the network is not heavily congested.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Elliott with RFC 3550 by using the threshold taught by RFC 3550 as the indicative of a congestion disclosed by Elliott to ensure a new call is set up properly.

As to **claim 2**, Elliott and RFC 3550 disclose the method of claim 1, but are silent on wherein new call may be accepted at a reduced bandwidth in the case of said parameter exceeding a lower threshold.

However, it is the common knowledge that if network in a "mild" congestion state, as indicated by the value packet loss ratio exceeding a lower threshold but below a

upper threshold, a reduce call should be accepted if doing so would not significantly worsen the congestion.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to accept a new call at a reduced bandwidth in order to fully take advantage of network resource.

As to **claim 3**, Elliott and RFC 3550 disclose the method of claim 1, but are silent on where said new call is not accepted into the IP network in the case of said parameter exceeding the upper threshold.

However, Elliott indicates that when data the loss threshold is reached, packet loss is unacceptable for normal network operation (unacceptable packet loss, [1493], line 4 and Fig. 21B), therefore, a new call is not accepted.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention not to accept a new call network in the case of said parameter exceeding the upper threshold in order not to make network congestion worsen.

As to **claim 4**, Elliott and RFC 3550 disclose the method of claim 1, RFC 3550 further discloses wherein the information obtained is a number of send packets to said second location via the network path (Line 1 of the paragraph for "Sequence number: 16 bits", Page 14, where lost packets are those with missing sequence number), wherein the number of sent packets comprises a number of lost packets, a number of late packets (Line 1 of the paragraph for "Sequence number: 16 bits", Page 14, where late packets inherently are packets that have been sent, but have not been received according to their sequence numbers) and a number of received packets.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Elliott with RFC 3550 to get detailed information regarding network operation.

As to **claim 5**, Elliott and RFC 3550 disclose the method of claim 1, Elliott further discloses wherein the information obtained is a delay (unacceptable latency, [1493], line 4) of received packets transmitted from said first location to said second location in the network path.

As to **claim 6**, Elliott and RFC 3550 disclose the method of claim 1, RFC 3550 further discloses wherein the information obtained is a delay variation (variation in the delay, Line 5 of last paragraph in Page 44) of received packets transmitted from said first location to said second location via the network path.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Elliott with RFC 3550 to get detailed information regarding network operation.

As to **claim 7**, Elliott and RFC 3550 disclose the method of claim 1, RFC 3550 further discloses wherein the information is obtained on a periodic basis (periodic transmission of control packets, first paragraph in Page 19).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Elliott with RFC 3550 to get detailed information regarding network operation.

As to **claim 8**, Elliott and RFC 3550 disclose the method of claim 1, RFC 3550 further discloses wherein the information is obtained on an exception basis using an immediate report (Receiver report, first line of Section 6.4 in Page 35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Elliott with RFC 3550 to get detailed information regarding network operation.

As to **claim 9**, Elliott and RFC 3550 disclose the method of claim 1, RFC 3550 further discloses wherein the parameter include packet lost ratio (packet lost ratio, Line 1 of 3rd paragraph of Section 6.4.4, Page 43).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Elliott with RFC 3550 to get detailed information regarding network operation.

As to **claim 10** and **19**, Elliott and RFC 3550 disclose claim 1 and 14, but are silent on wherein PLR is defined as

$$PLR = \frac{(\text{lost packets} + \text{late packets})}{(\text{received packets} + \text{lost packets} + \text{late packets})}.$$

However, by definition, PLR is the ratio of the number of packets NOT received to the total number of packets sent for a given period of time; and the number of packets that are not received equal to the sum of the number of lost packets and the number of late packets;

therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to calculate PLR using formula shown above for gaining a better understanding of network performance status.

As to **claim 11**, Elliott and RFC 3550 disclose the method of claim 2, Elliott further discloses using different encoders (CODECs, such as ones supporting G.711, G. 726, and G.728 in [1004]) to handle different connections with different bandwidth ([1004]); which include the case of using 2 different encoders to handle 2 different kinds of calls that have different bandwidth.

As to **claim 12**, Elliott and RFC 3550 disclose the method of claim 2, but are **silent on** wherein the bandwidth of a newly accepted call is reduced by increasing the packet size for said newly accepted voice call;

however, for a given amount of data, increasing the packet size will decrease the overhead caused by packet header therefore reduce the required bandwidth for the call, (this is demonstrated by efficiency factor e=(packet_size)/(packet_size+header_size); for a fixed header size, the larger is the packet_size, the larger is e);

therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to increase the packet size so as to decrease the required bandwidth for the call for the benefit of saving bandwidth resource.

As to **claim 13**, Elliott and RFC 3550 disclose the method of claim 2, Elliott disclose further discloses wherein the bandwidth of a newly accepted call is reduced by activating the characteristic of silence suppression for said newly accepted voice call (silence suppression activation timer, table 147 in Page 85).

As to **claim 15**, Elliott discloses the apparatus of claim 14 wherein said first circuit further comprises one or more Ethernet cards (Ethernet switch 332/334 of FIG. 3 [0568]) that are connected to the Internet protocol network.

As to **claim 18**, Elliott discloses the apparatus of claim 14 wherein the third circuit (CPU of Soft Switch 204, FIG. 2B) determining whether the new voice call is to be accepted into the internet protocol network via the first circuit, by comparing said parameter to a plurality of thresholds (Packet Loss Threshold, Table 147 – continued, page 85, where packet loss values can be used as the thresholds for determining if the new voice call is to be accepted or not).

As to **claim 19**, Elliott discloses the method of claim 14, but is silent on wherein PLR is defined as

$$PLR = \frac{(\text{lost packets} + \text{late packets})}{(\text{received packets} + \text{lost packets} + \text{late packets})}.$$

However, by definition, PLR is the ratio of the number of packets NOT received to the total number of packets sent for a given period of time; and the number of packets that are not received equal to the sum of the number of lost packets and the number of late packets;

therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to calculate PLR using formula shown above for gaining a better understanding of network performance status.

As to **claim 20**, Elliott discloses the apparatus of claim 19 wherein the traffic processing (including new call setup) depends on QoS parameters, including packet loss performance ([1081]);

Elliott does not explicitly disclose the new call is accepted if PLR is below a given threshold;

however, PLR is just one commonly used QoS parameter;

therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to a new call is accepted if PLR that is (calculated by the third circuit, CPU) is below a given threshold for the benefit of providing reliable network service for users.

As to **claim 21**, Elliott discloses the apparatus of claim 19 wherein the third circuit compares the packet loss ratio;

Elliott does not explicitly disclose the new call is accepted using a reduced bandwidth if PRL is between given low threshold and the upper threshold;

however, PRL is commonly used QoS parameter ([1081]); and Elliott also teaches providing different network services depend on QoS parameters, such as delay and packet loss information ([1088]);

therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to a new call is accepted using a reduced bandwidth if PRL that is (calculated by the third circuit, CPU) is between given low threshold and the upper threshold for the benefit of providing reliable network service for users.

As to **claim 22**, Elliott discloses the apparatus of claim 19 wherein the third circuit compares the packet loss ratio;

Elliott does not explicitly disclose the new voice call is accepted if PLR is below a given threshold;

however, PLR is commonly used as a QoS parameter ([1081]);

therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to a new call is blocked if PLR that is (calculated by the third circuit, CPU) is above the upper threshold for the benefit of protecting normal network operation.

4. **Claims 16-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott in view of H. Schulzrinne in view of RFC 3550, further in view of Hooper et al (US 20040252686 A1) (hereinafter **Hooper**).

As to **claim 16**, Elliott in view of RFC 3550 discloses the apparatus of claim 14, but are silent on said second circuit is at least one strongarm card.

However, the second circuit is simply a CPU card (such as CPU card of Soft Switch 204, FIG. 2B) that implement the logic of receiving QoS information associated with voice calls, and strongarm is a popular CPU that is commonly used in the CPU cards as disclosed by Hooper ("the core processor implemented as a Strong Arm architecture", [0010]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use strongarm CPU card as the circuit disclosed by Elliott.

As to **claim 17**, Elliott in view of RFC 3550 and Hooper discloses the apparatus of claim 16, Elliott further discloses the CPU card (with stronarm CPU) is connected to the Ethernet card via a host CPU circuit (CPU card of Soft Switch 204 is connected to ethernet switches 332, [0568], line 1-5 and FIG. 2B).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianye Wu whose telephone number is (571)270-1665. The examiner can normally be reached on Monday to Thursday, 8am to 7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jianye Wu/

Examiner, Art Unit 2416

/Kevin C. Harper/

Primary Examiner, Art Unit 2416